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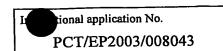


Rec'd PCT/PTO 10 DEC 2004 INTERNATIONAL PRELIMINARY EXAMINATION REPORT

Anslation enternation	PCT	Rec'e	PETAPTO 10 DEC 200
INTERNATIO	ONAL PRELIMINARY	EXAMIN	ATION REPORT
	(PCT Article 36 an	d Rule 70)	
Applicant's or agent's file reference B02/0106PC	FOR FURTHER ACTION	See Notifi Preliminary	ication of Transmittal of Internation Examination Report (Form PCT/IPEA/41
International application No. PCT/EP2003/008043	International filing date (day/month/year) Prior 23 July 2003 (23.07.2003)		Priority date (day/month/year) 23 July 2002 (23.07.2002)
International Patent Classification (IPC) or n B01D 3/32	national classification and IPC	-	
Applicant	BASF AKTIENGESEI	LSCHAFT	
This international preliminary example Authority and is transmitted to the second control of the second c	amination report has been prapplicant according to Article	epared by thi	s International Preliminary Examining
2. This REPORT consists of a total of	f 5 sheets, inclu	ding this cover	sheet.
been emended and are the	anied by ANNEXES, i.e., shee basis for this report and/or shen foor of the Administrative In	ets containing	ption, claims and/or drawings which have rectifications made before this Authority or the PCT).
These annexes consist of a	total ofsheets		
3. This report contains indications re-	lating to the following items:		
I Basis of the repo	rt ·		
II Priority			
III Non-establishme	ent of opinion with regard to no	velty, inventiv	ve step and industrial applicability
IV Lack of unity of			t t d'i amiliakilita
v Reasoned statem citations and exp	nent under Article 35(2) with replanations supporting such stat	egard to novelt ement	y, inventive step or industrial applicability
VI Certain docume	nts cited		
· · · · · · · · · · · · · · · · · · ·	in the international application		
	tions on the international appli	cation	
Date of submission of the demand	Da	te of completion	on of this report
20 February 2004 (20	.02.2004)		14 July 2004 (14.07.2004)
Name and mailing address of the IPEA/E	EP A	thorized offic	er
Facsimile No.	i Te	lephone No.	

Form PCT/IPEA/409 (cover sheet) (January 1994)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT



I. Basis of the report							
1. This rep	ort h	as been drawn or 14 are referred to i	n the basis of (Replacement sheets in this report as "originally filed"	which have been furnished to the receiving Office in response to an invitation and are not annexed to the report since they do not contain amendments.):			
Γ	ղ ։	the international	application as originally filed.				
	_ 1	the description,	pages1-22	, as originally filed,			
	Ŋ		pages	, filed with the demand,			
			pages	_, filed with the letter of,			
			pages	, filed with the letter of			
 	7 ₁	the claims,	Nos. 1-10	_ , as originally filed,			
	_	·	Nos.	, as amended under Article 19,			
			Nos.	_ , filed with the demand,			
				, filed with the letter of,			
			Nos.	_ , filed with the letter of			
Г	$\overline{\lambda}$	the drawings,	sheets/fig1/4-4/4	_ , as originally filed,			
	_3		sheets/fig				
			sheets/fig	, filed with the letter of,			
			sheets/fig	_ , filed with the letter of			
2. The am	nendr	ments have result	ted in the cancellation of:				
		the description,	pages				
		the claims,	Nos.				
		the drawings,	sheets/fig				
	to go	report has been obeyond the disc	losure as filed, as indicated in the	mendments had not been made, since they have been considered ne Supplemental Box (Rule 70.2(c)).			

NO

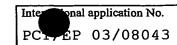
v.	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement							
1.	Statement		•					
	Novelty (N)	Claims	1-10 .	YES				
		Claims		NO NO				
Inventive step (IS)	Inventive step (IS)	Claims		YES				
		Claims	1-10	NO				
	Industrial applicability (IA)	Claims	1-10	YES				
	Industrial applicability (IA)	Ciamis						

Claims

2. Citations and explanations

1. The invention essentially concerns a method of purifying oxiranes which is carried out using a partition column (claims 1 to 9). Claim 10 concerns a device which comprises further installations in addition to the above-mentioned partition column, namely a separation apparatus, an isothermic reactor and an adiabatic reactor.

With the exception of the partition column, the features of the claimed purification method are known from WO-A-00 07965 (D1), referred to on page 1 of the description. Built as described with respect to the claimed method, partition columns are per se known from documents EP-A-0122367 (D2), EP-1151781 (D3), and WO-A-02 40434 (D4) for fractionating product mixtures with close boiling points, However, none of these documents mentions the fractionation of oxirane/alkene mixtures. The recycling of non-converted feed-stock in the effluent in the partition columns in D2 to D4, and the preceding or subsequent use of isothermic and adiabatic reactors is not described either.



Owing to these distinguishing features, the claimed subject matter appears to meet the novelty requirement of PCT Article 33(2).

2. Inventive step

Production method according to claims 1 to 9 2.1 Proceeding from D1, which is considered the closest prior art, the method of purification using a partition column is considered the essential distinguishing feature. The technical function of this partition column is already described in detail in the prior art. D2 (see page 1, lines 25 to 29; page 2, lines 17 to 26), D3 (page 2, lines 1 to 40) and D4 (page 1, lines 25 to 28; figure 1) disclose the evident advantages of these design features, namely a higher degree of separation, i.e. greater product purity, with lower energy consumption and a favourable thermal load on the mixing system. D2 (page 4, lines 22 to 26) states that "this type of column can be designed in terms of thermal capacity, number of separating stages, arrangement of feed points and side discharge points and length of the separating device effective in the longitudinal direction (division) with the aid of a computer or experimentally in the manner of column which is not longitudinally divided". Moreover, D2 and D3 show that the application examples are not limiting, but are suitable in general for separating close-boiling mixtures (see, for example, D3: pages 2, lines 5 to 7, "multicomponent mixtures", "liquid and gaseous media"). On page 3 of the description, the applicant states that the object is to optimize the purification of oxiranes by distillation, in particular in terms of energy consumption, thermal

load and product purity. A person skilled in the art seeking a suitable solution would have consulted D2 and D3 since they address this problem of separation. Since the process parameters can be determined by computer or experiment (see D2), it is routine procedure for a processing engineer to adapt the partition column as per the invention to the separation problem in hand. Proceeding from D1, a person skilled in the art would have used the teaching of D2 (and/or of D3) to solve the problem of interest, without thereby being inventive. Therefore claims 1 to 9 do not appear to meet the requirements of PCT Article 33(3).

2.2 Device according to claim 10 The claimed device is a juxtaposition of devices (reactors and partition column) which are not functionally connected. Since a person skilled in the art is familiar with the method of use and advantages of each individual device per se (D2 to D4) and the method of separation in epoxy production using reactors of the above-mentioned type is likewise prior art (D1), it is not clear on what an inventive step could be based for the claimed device. In this connection it should be noted that the device is not based on a particular purpose but is to be considered merely a device suitable for carrying out the claimed method. Therefore this claim does not appear to meet the requirements of PCT Article 33(3).